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**The Neurone in Anatomy and Physiology.** — The neurone theory of the structure of the nervous system as promulgated by Waldeyer in 1891 has been subjected to nearly ten years of rigorous criticism, and the outcome of this, so far as the present standing of the theory is concerned, has been well presented by Professor Verworn,<sup>1</sup> in his address before the Seventy-Second Meeting of the German Naturalists and Physicians. The fundamental postulate of the neurone theory, namely, that nerve fibres are processes from ganglion cells and that the so-called ganglion cell with these processes constitutes the real cellular unit of the nervous system, is clearly stated at the outset. The possibly closer union of these units than has heretofore been admitted, particularly by the adherents of the contact theory, is considered in the light of the recent work by Apáthy and by Bethe and pronounced still uncertain. The whole issue of this discussion is rightly shown to be of secondary importance so far as the stability of the neurone theory is concerned.

From the physiological side the author makes an excellent presentation of the question as to the significance of ganglion cells. The recent arguments of Bethe and of Steinach, to the effect that central nervous operations are possible without ganglion cells, are shown to be inconclusive, and many important observations made on animals subjected to nerve poisons are adduced to show that central nervous operations are dependent on ganglion cells for more than a supply of nutritive material. The essay concludes with the statement that the anatomical and physiological investigations of the last ten years have left the neurone theory on a firm basis and is unquestionably one of the best recent estimates of the present standing of that theory.

P.

**Avian Helminths.** — An important contribution on the frequency and distribution of the internal parasites of birds has recently been published by Wolffhügel.<sup>2</sup> In all 630 hosts belonging to 73 species of birds were examined. Most of them were native in the country immediately bordering on the southern Rhine, but a few came from the collection of the Basel Zoölogical Garden. In all 180 birds proved to be uninfected; the rest harbored of cestodes 35 species in 231 hosts, of trematodes 19 species in 124 hosts, of nematodes 26 species in 252 hosts, and of Acanthocephala 11 species in 41 hosts.

<sup>1</sup> Verworn, M. *Das Neuron in Anatomie und Physiologie*. Jena, G. Fischer, 1900. 54 pp.

<sup>2</sup> Wolffhügel, K. *Beitrag zur Kenntnis der Vogelhelminthen*. Dissertation. Freiburg, B. 1900. 204 pp., 7 double plates.

Different kinds of birds varied very greatly in number and type of parasites sheltered, and forms common in the one would be entirely absent or rare in the other. Full results of the examinations are given in a series of tables which show the number, condition, location, and name of the parasites collected and the date, locality, collector, and name of the host. The second half of the paper is devoted to an anatomical description and discussion of some of the less known cestodes found. The descriptions are full and contain many new points which are well illustrated on the plates. One new species, *Hymenolepis tetraonis*, was discovered in the quail, in which it is apparently very common.

H. B. W.

**Revision of the Ticks.** — Of this work by Neumann,<sup>1</sup> a third part has just appeared. It covers the tribe of the Ixodæ, including the eyeless genera Ixodes, Hæmalastor, and Aponomma, and the genera Hyalomma and Amblyomma which possess eyes. Analytical keys for each genus, based on the characters of the male, of the female, and of the nymph, and full bibliographic references make the work a mine of information. Inasmuch as the ticks from the collection of the Bureau of Animal Industry were placed in the hands of the author for this revision, it has a peculiar value for American students; this usefulness is greatly enhanced by the full references given under geographical distribution to the individual states of the Union from which the specimens have been collected. With delicate courtesy the names of new species taken from labels written by the late George Marx are used and the species credited to that author; many of his drawings are also incorporated in the article, although for the text Professor Neumann is alone responsible. The most important change in the nomenclature of American forms is the suppression of *Ixodes unipunctata* Packard, the Lone Star Tick, as synonymous with *Amblyomma americanum* Koch. The illustrations of the revision are good, the text clear and concise, and the work is evidently carefully done, making it altogether the most important contribution in this group since the monograph of Koch. A fourth part to include additions, corrections, and general considerations of a taxonomic character to conclude the work will appear soon.

H. B. W.

**The Coccidæ of Brazil.** — As recently as 1897 Dr. H. von Ihering catalogued the Coccidæ of Brazil, but he was able to enumerate

<sup>1</sup> Revision de la famille des ixodidés, *Mém. Soc. Zool. France*, tome xii (Paris, 1899), pp. 107-294, 63 figs.